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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/556,530	11/14/2005	Tetsuya Inoue	28955.4038	8858
27890	7590	12/17/2008		
STEP TOE & JOHNSON LLP 1330 CONNECTICUT AVENUE, N.W. WASHINGTON, DC 20036				
EXAMINER				
WILSON, MICHAEL H				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
12/17/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/556,530

Applicant(s)

INOUE ET AL.

Examiner

MICHAEL WILSON

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 20080130, 20080108, 20071205, 20070503, 20051114
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 2 and 3, the claims are indefinite because while A_{1-4} may be CR'R", R's and R"s may be unsaturated rings. An unsaturated ring such as phenyl would force the carbon to have only one R group. Therefore it is unclear if instances where the A_{1-4} carbon is sp^2 hybridized is included or excluded by the claims. For the purposes of this action the claim is interpreted to include instances where the carbon atom of A_{1-4} is sp^2 hybridized.

Regarding claims 4 and 5, n' is defined to include 0 in claim 4, however claim 1 requires both n and m to be at least 1. The case where n' is 0 would result in an X with only 1 substituent, a case which is excluded from claim 1. Additionally it is unclear if n' defined the bond(s) to Sp or Y. Claim 5 is indefinite by dependence.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4 and 6-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al. (US 2002/0055013 A1).

Regarding claims 1-4 and 6-11, Kim et al. discloses a compound having a spiro bond represented by general formula (1) where L is a single bond, Z is a carbon atom, X is an aryl group with 6 to 20 carbons, and Y is the same as Sp [0024]. Additionally the reference discloses an organic electroluminescent device comprising a pair of electrodes [0043] with an organic thin film between the electrodes [0043]. The organic thin film comprises a light-emitting layer which contains the spiro compound as a light-emitting material [0041] and emits blue light [0022].

5. Claims 1-4 and 6-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hu et al. (US 2002/0132134 A1).

Regarding claims 1-4 and 6-11, Hu et al. disclose a compound having a spiro bond represented by instant general formula (1) where L is a single bond, Z is a carbon atom, Q forms a cyclohexane, X is phenyl, Y is phenyl, and m is 2 (page14, compound II-15). The reference also discloses an organic electroluminescent device comprising an organic layer between a pair of electrodes [0050]. The organic layer contains a light-emitting layer which contains a spiro compound as a light-emitting material [0050] and emits blue light [0017].

6. Claims 1-4 and 6-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al. (US 2003/0039838 A1).

Regarding claims 1-4 and 6-11, Chen et al. discloses a compound having a spiro bond represented by general formula (1) where L is a single bond, Z is a carbon atom, X is spirobifluorene, Y is the same as Sp, and Sp is a compound represented by instant general formulae (2) and (5) ([0093], and [0099] pages 23-26). The reference also discloses an organic electroluminescent device comprising an organic layer between a pair of electrodes [0114]. The organic layer contains a light-emitting layer which contains a spiro compound as a light-emitting material ([0101] and [0110]) and emits blue light [0101].

7. Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (US 2004/0023060 A1).

Regarding claims 1-10, Kim et al. discloses a compound having a spiro bond represented by general formula (1) where L is a single bond, X is a phenyl (pages 7, 9, and 11-13; compounds 108, 126, 201, 207, 210, 211, and 216) or an aromatic heterocyclic group (pages 13, 15, and 16; compounds 219, 221, 222, 405, 410-413), and Y is a substituted aryl group, the same as Sp (page 15, compound 405) or a substituted phenyl of instant general formula (26) (page 7, compound 108). Additionally the reference discloses an organic electroluminescent device comprising a pair of electrodes [0076] with an organic thin film between the electrodes [0072]. The organic thin film comprises a light-emitting layer which contains the spiro compound as a light-emitting material [0099].

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shibamura et al. (JP 2002/316955 A), Shibamura et al. (JP 2002/284718 A), Shibamura et al. (JP 2002/2653898 A), Azumaguchi et al. (JP 2003/115624 A), and Chen et al. (W0 03/008475 A2) disclose compounds having a spiro bond and electroluminescent devices utilizing the spiro compounds which overlap with the present claims. However the references are cumulative to the rejections of record.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL WILSON whose telephone number is (571)

270-3882. The examiner can normally be reached on Monday-Thursday, 7:30-5:00PM EST, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MHW

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794